Remarks

Claim 24 has been amended to include the subject matter of Claim 35 and to recite that stainless steel pipe has a yield strength of 654 MPa or more. Claim 35 has been cancelled as redundant in light of the amendment to Claim 24. Additional support may be found in paragraph [0069] of the Applicants' Specification, for example. Entry of the claim amendments is respectfully requested.

Claims 24-35 stand rejected under 35 USC §103 as being obvious over Kushida in view of the ASM Handbook. The rejection states that Kushida teaches a corrosion resistant high strength stainless steel pipe for linepipe with a composition that overlaps the claimed composition. The rejection further states that it is obvious to modify Kushida by replacing the disclosed welded pipe with a seamless pipe merely because both welded and seamless pipes are known in the art.

The Applicants respectfully submit that the rejected claims are not obvious in view of the combination because, even if there were motivation to combine ASM Handbook with Kushida, one skilled in the art could not make the combination as suggested by the rejection without destroying the intended purpose of Kushida. The primary intended purpose of Kushida pertains to problems associated with seam welded pipes, namely, with obtaining resistance to stress corrosion cracking at the base metal and the weld portion of the pipe inside surface. (See Kushida, column 3, lines 1-11.) The steel composition of Kushida is designed to provide resistance to stress corrosion cracking at the welded seam. Therefore, modifying Kushida to make a seamless pipe completely defeats the purpose of Kushida's invention. Accordingly,

Kushida would not be modified to achieve the claimed seamless pipe because there is no motivation to make the modifications required by the rejection.

Furthermore, even if Kushida and ASM Handbook are combinable, the Applicants respectfully submit that the combination fails to result in each and every element of the rejected claims. Kushida discloses a large-diameter, thick-walled martensitic stainless steel welded pipe for pipelines. (See Kushida, Abstract.) Kushida explicitly teaches that the metallurgical microstructures of the base metal should be such that "the martensitic phase proportion exceeds 50% by volume and a ferrite phase is contained therein." (Kushida, column 7, lines 48-51.) Kushida also teaches that a martensite phase volume of 55-90% is desirable. (Kushida, column 7, lines 52-53.) The ferrite phase proportion of Kushida's composition may be 0%, or may constitute the remainder of the phase volume. (Kushida, column 7, lines 51-55.)

Furthermore, Kushida teaches that the strength of the base metal is "desirably equivalent to the X-80 grade of strength (551- 689 MPa in yield strength)." (Kushida, column 7, lines 59-57.) Kushida also teaches that the manufacture of the welded pipe includes subjecting a hot strip or thick plate to cold working to be formed into a cylindrical form.

In sharp contrast, the pipe recited in the solicited claims may be used in oil wells and has a high yield strength (YS) of 654 MPa or more and a superior corrosion resistance. The corrosion resistance persists even in a severely corrosive environment of high temperatures up to 230 ^{o}C and the presence of CO_2 and Cl^-.

Furthermore, as recited in the Claim 24, the base metal contains an austenite phase volume of 2.6% to 30% and a YS of 654 MPa or more. Because Kushida teaches a composition with a martensite phase of 50% or more and a ferrite phase constituting the remainder, one skilled in the art would not understand Kushida as teaching an austenite phase volume of 2.6% to

30%. Kushida also fails to teach a steel composition having both an austenite phase volume of 2.6% to 30% and a YS of 654 MPa or more. Thus, Kushida teaches a distinct composition with different strength properties. The ASM Handbook, which is relied on solely for teaching seamless pipes, does not cure Kushida's deficiency.

Additionally, unlike the cold-forming process of Kushida, the Applicants' Specification also teaches a process of manufacturing steel pipe materials by heating and hot working.

Accordingly, the Applicants respectfully submit that Kushida and the ASM Handbook fail to disclose each and every element of the rejected claims, such as an austenite phase volume of 2.6% to 30% and a YS of 654 MPa or more. Removal and reconsideration of the rejection is respectfully requested.

Claims 24-35 are provisionally rejected for nonstatutory obviousness-type double patenting over Claims 25, 27-29, 31 and 34-36 of co-pending Application No. 10/576,885. The Applicants respectfully submit that inasmuch as the rejection is "provisional," further treatment of the rejection can be held in abeyance.

In light of the foregoing, the Applicants respectfully submit that the entire Application is now in condition for allowance, which is respectfully requested.

Respectfully submitted,

T. Daniel Christenbury
Reg. No. 31,750
Attorney for Applicants

TDC/LL/vp
(215) 656-3381